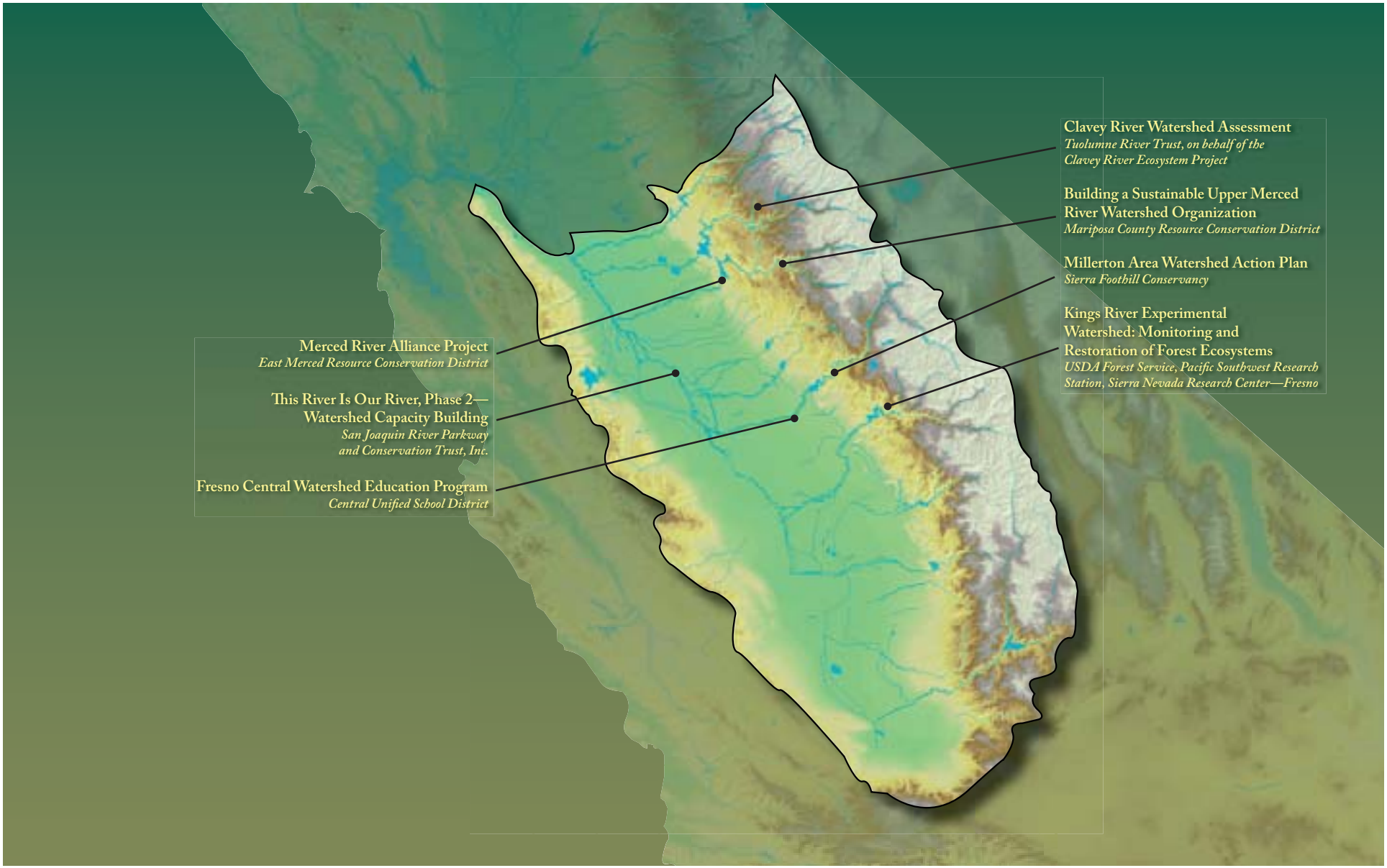
Clavey River Watershed Assessment
Tuolumne River Trust, on behalf of the Clavey River Ecosystem Project
Building a Sustainable Upper Merced River Watershed Organization
Mariposa County Resource Conservation District
Millerton Area Watershed Action Plan
Sierra Foothill Conservancy
Kings River Experimental Watershed: Monitoring and Restoration of Forest Ecosystems
USDA Forest Service, Pacific Southwest Research Station, Sierra Nevada Research Center—Fresno
Merced River Alliance Project
East Merced Resource Conservation District
This River Is Our River, Phase 2—Watershed Capacity Building
San Joaquin River Parkway and Conservation Trust, Inc.
Fresno Central Watershed Education Program
Central Unified School District

Mariposa County's economy relies heavily on visitors who come to the watershed to enjoy recreational opportunities, such as hiking along the Merced River.

Award Amount
$271,080

Watershed
Merced River Watershed

County
Mariposa County

CALFED Region
San Joaquin Valley Region

Legislative Districts
US Congress: 19, State Assembly: 25, State Senate: 14

Purpose

Build the sustainability of the Upper Merced River Watershed organization to better manage the cultural, scenic, and natural resources of the watershed

Project Goals

- Establish a watershed center to support outreach activities for visitors and residents
- Complete a scientific literature search for the Merced River watershed
- Continue yellow starthistle removal demonstration project
- Implement citizen water quality monitoring program
- Prioritize tasks that will lead to improved stewardship of the Upper Merced River watershed

Benefits to the Bay-Delta System

The Upper Merced River watershed is largely within Mariposa County in the central Sierra and encompasses 700,000 acres, including Yosemite National Park. Improving the sustainability of the Upper Merced Watershed organization will increase public awareness and understanding of watershed health issues; improve collaboration among local residents, government agencies, and visitors to the watershed; and ensure long-term support for the organization and the watershed. The priority activities of the stakeholders are to establish a watershed center, implement watershed monitoring and assessment protocols, improve scientific literature compilation and information sharing, and continue the removal of invasive yellow starthistle. Support of the Upper Merced River Watershed organization will benefit the visitors and stakeholders in the watershed by encouraging better watershed management practices to protect the scenic, cultural, and natural resources of the watershed.

Project Overview

The Upper Merced River watershed is located largely within Mariposa County in the Central Sierra and encompasses 700,000 acres. Most of the land is managed by one of three federal agencies, each of which has its own management plans and resource practices. However, more than 100,000 acres are privately owned and used for widely dispersed residences, ranching, or logging. Mariposa County is sparsely populated and its economy depends on the three million tourists who visit the Yosemite National Park in the upper watershed each year. Mariposa County is a rural financial hardship county and its economic health is dependent on the health of the watershed. Visitors and residents must be educated in watershed processes and stewardship if their impact on the watershed is to be positive.

In an effort to extend capacity building, outreach, and education to watershed visitors and Merced River stakeholders, the Upper Merced River watershed (UMRW) organization is establishing a watershed center that will serve as an operations hub for the URMW organization and enhance its visibility and credibility. The center will provide public space for outreach and educational programs, volunteer workshops, and training programs.

Stakeholders in the watershed are focused on three priority projects that will be enhanced by the watershed center. The first priority is to continue the yellow starthistle removal demonstration project to remove the fast-growing nonnative invasive plant that is choking out native plants and habitat. A second priority is to monitor water quality. Volunteer citizen monitors "adopt" a monitoring site on the Merced River and tributaries and conduct quarterly water quality testing. This systematic monitoring will lead to a better understanding of UMRW watershed processes and expand the core of trained volunteer stewards. A third priority is to search for, compile, and share scientific literature about the watershed. The literature search addresses a key need identified by the stakeholders to share and coordinate data among agencies or stakeholder interests. A stakeholder committee is reviewing the scientific literature and identifying gaps in existing research. Stakeholders and agencies can then work together to fill the gaps.

Volunteer citizen monitors learn about water quality sampling.

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God's Bath, a Clavey River swimming hole, with rushing waters of spring flows.

Award Amount
$774,927

Watershed
Clavey River Watershed

County
Tuolumne County

CALFED Region
San Joaquin Valley Region

Legislative Districts
US Congress: 19, State Assembly: 25, State Senate: 14

Purpose

Develop a detailed watershed analysis for the Clavey River to provide the basis for long-term protection and management of the watershed

Project Goals

- Determine existing conditions in the watershed
- Define desired future condition of the watershed
- Identify and prioritize projects and management actions to move the watershed to the desired future condition
- Build community capacity to understand and participate in management of the Clavey

Benefits to the Bay-Delta System

The Clavey River is one of the longest remaining free-flowing rivers in the Sierra Nevada. It supports many terrestrial and aquatic plant and animal species, and is an important component of the regional water supply. It is tributary to the Tuolumne River, which is captured by Don Pedro Reservoir for agricultural and urban water supplies. The goal of the Clavey River Watershed Assessment project is to define existing conditions and build community capacity for better watershed management. Primary benefits of this project will be to the Stanislaus National Forest and the public who use the forest for recreation. Recreational and water users of the Tuolumne River and Don Pedro Reservoir will also benefit from this project. Overall, the watershed analysis will increase knowledge about the Clavey River and recommend management actions that will be of use to management efforts for all Sierra streams. Recommended actions in the watershed analysis will lead to improved water quality, healthier fish populations, and improved ecosystem conditions within the Bay-Delta system.

Project Overview

The Clavey River, a tributary of the Tuolumne River, is located in Tuolumne County northwest of Yosemite National Park. It is one of the longest remaining free-flowing rivers in the Sierra Nevada. The Stanislaus National Forest manages 92% of the watershed, and 8% is privately owned. The Clavey River watershed supports many terrestrial and aquatic plant and animal species, including a unique variety of rainbow trout and nearly 8,000 acres of old-growth forest. However, the watershed is threatened by the multiple demands on its resources from local communities and the growing urban populations of the Central Valley and Bay Area. Poor roads, seasonal grazing, logging practices, recreation, and the incursion of nonnative noxious weeds jeopardize the health of the Clavey watershed. The Clavey River Watershed Analysis will document the Clavey's resource values so the values can be better protected and restored. The analysis will help build community understanding and participation in managing the watershed and has the potential to be used as a reference for similar stream restorations in the Bay-Delta system.

A group of local stakeholders, The Clavey River Ecosystem Project (CREP), initiated the watershed analysis. They continue to play an important role in overseeing and participating in the project and informing and educating other stakeholders and interested parties. CREP is working with a professional facilitator to guide the project to completion. The watershed analysis consists of three key sections: desired conditions, existing conditions, and prioritized recommended actions and projects. A Science Review Team will provide peer review and technical guidance to the watershed analysis, including assistance in refining data collection, assessment, and adaptive management. Throughout the development of the watershed analysis, stakeholders will be involved through interviews, focus groups, public meetings and workshops, and an interactive website. The anticipated result is a watershed analysis with broad support in the community and a community with greater capacity to manage its watershed.

The Clavey River in July.

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Fresno Central Watershed Education Program

Central Unified School District

Central Unified School District students monitor San Joaquin River water quality as members of a Clean Water Team.

Award Amount
$364,497

Watershed
San Joaquin River Watershed

County
Fresno County

CALFED Region
San Joaquin Valley Region

Legislative Districts
US Congress: 19, State Assembly: 29 and 30, State Senate: 14

Purpose

Implement a place-based environmental education program that enhances student learning and develops responsible stewards in the San Joaquin River watershed

Project Goals

- Train teachers in the Watershed Education Program
- Involve students in watershed restoration and monitoring projects
- Develop and implement community outreach program

Benefits to the Bay-Delta System

The Central Unified School District is located in a rapidly growing area of Fresno in the heart of the San Joaquin Valley. The Fresno-Central Watershed Education Program (WEP) is educating thousands of students to better understand their environment and watershed, and fostering their commitment to stewardship at a young age. Their restoration projects along the river and tributaries provide learning experiences as well as lasting environmental improvements. In addition to the direct benefits to the school district, employees, and students, the education curriculum provides benefits to the Fresno community through improvements in watershed understanding among local residents and organizations. WEP is sharing its resources and experience through collaboration with educational, environmental, community, and government organizations, providing public benefits both locally and statewide.

Project Overview

The Central Unified School District is located in Fresno in the heart of the San Joaquin Valley. For several years, significant resources have been directed to restoration of the San Joaquin River. Through the Fresno-Central Watershed Education Program (WEP), students and teachers are learning about the significance of the San Joaquin River and its relationship to the Bay-Delta system, and participating in restoration projects on the river and its tributaries. The rapid growth of the district has meant that more schools and teachers want to participate in WEP than can be supported.

This project is providing WEP with the resources to reach more students and teachers, and to fully integrate environmental education into the classroom curriculum. Nearly 90 additional teachers are training in the WEP curriculum and implementing the program in the classroom. An additional 3,000 students are participating in environmental education. A lending library that includes tools and equipment for restoration projects has been established. In collaboration with several community partners, students are applying their classroom lessons in hands-on restoration and monitoring activities on the river and its tributaries. These activities include planting native vegetation and trees; removing nonnative invasive plants; installing irrigation systems; removing trash, tires, and debris for disposal; and maintaining and monitoring existing restoration areas. Students are also performing monthly water quality tests and bioassessments of macroinvertebrates on the San Joaquin River. Selected restoration projects are consistent with the San Joaquin River Parkway Master Plan.

Students are taking their learning to the community. In collaboration with local watershed organizations, students are developing presentations to share within and outside of the San Joaquin River watershed. They are developing a website, informational brochure, and monthly electronic newsletter to educate and involve the community in the watershed.

Working with community partners and government agencies, Central Unified School District students assist in environmental restoration projects.

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Kings River Experimental Watershed: Monitoring and Restoration of Forest Ecosystems

USDA Forest Service, Pacific Southwest Research Station, Sierra Nevada Research Center—Fresno

Sampling stream invertebrates, which are good indicators of stream condition.

Award Amount
$661,000

Watershed
Upper Kings River Watershed

County
Fresno County

CALFED Region
San Joaquin Valley Region

Legislative Districts
US Congress: 21, State Assembly: 29, State Senate: 14

Purpose

Collect valuable and pertinent data for Sierra Nevada headwater streams and their associated watersheds needed to assess ecosystem health and the effects of management, and demonstrate how this information may be applicable to other local watersheds

Project Goals

- Quantify the variability in characteristics of headwater stream ecosystems and their associated watersheds
- Evaluate the effects of forest management and fire and fuel reduction treatments on the watersheds' riparian vegetation and stream chemical, physical, and biological conditions
- Make data and methods accessible to the public for analysis and use in other similar watersheds

Benefits to the Bay-Delta System

The Kings River drains the western slope of the Sierra Nevada and is the main drainage basin between the San Joaquin and Kaweah Rivers in the San Joaquin Valley. This research project makes a significant contribution to the understanding of the small Sierra streams that contribute to the Bay-Delta system and the forest management practices required to keep such watersheds healthy. The nature of the research makes it applicable to other watersheds throughout the Sierra Nevada with similar fire and ecosystem management concerns. The project contributes to the objectives of the CALFED Water Quality Program by increasing the database and understanding of source watersheds to the Bay-Delta. The Kings River Experimental Watershed project combines industry, government agencies, universities, and community organizations in its research study, thus promoting collaboration among many local watershed interests.

Project Overview

The Kings River drains the western slope of the Sierra Nevada and is the main drainage basin between the San Joaquin and Kaweah Rivers in the San Joaquin Valley. Although 60% of California's water originates in small streams in the Sierra Nevada, very little is known about how these streams are affected by management activities at the source. These stream systems are considered the most altered and impaired habitats of the entire Sierra, yet quantitative information is not available to define appropriate management for them.

The Kings River Experimental Watershed project (KREW) is a long-term study to collect, quantify and evaluate information about Sierran headwater streams and their associated watersheds. Two sites typical of the southern Sierra Nevada and forested headwaters, which contribute substantially to the Bay-Delta system, were selected for study, Providence Creek and Bull Creek. KREW examines the physical, chemical, and biological attributes of the atmospheric, terrestrial, and aquatic systems of the project's eight watersheds. The study addresses all areas of the CALFED Watershed Program: ecological, physical, social (management methods and effects), and emergent (effects on watershed processes from wildlife and land use). It also incorporates CALFED's suggested monitoring parameters. Outreach to local stakeholder groups and educational entities is integrated throughout the study, both to inform the community and to elicit input and comments.

The study will fill a significant data gap and serve as a model for other watersheds, leading to development of better land use and fire management strategies and management practices. KREW is implemented and jointly funded by the Pacific Southwest Research Station of the USDA Forest Service. It is located on the Sierra National Forest and Southern California Edison lands.

Each experimental stream has a large and small flume to accurately measure streamflow.

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The Upper Merced River canyon below El Portal.

Award Amount
$2,299,730

Watershed
Merced River Watershed

County
Merced County

CALFED Region
San Joaquin Valley Region

Legislative Districts
US Congress: 18 and 19, State Assembly: 14 and 25, State Senate: 12 and 14

Purpose

Create an alliance under which stakeholders representing the upper and lower reaches of the Merced River watershed can collaboratively address watershed-wide issues

Project Goals

- Establish baseline populations of birds, fish, and macroinvertebrates in the Merced River
- Create a long-term sustainable alliance among stakeholders, agencies, communities, and students in the upper and lower reaches of the Merced River
- Foster the perception of the watershed as a single unit with unique reaches
- Develop and prioritize collaborative projects and leverage funding opportunities
- Promote acceptance of water quality monitoring in the lower reach
- Promote watershed management and stewardship activities among local communities and schools in both reaches

Benefits to the Bay-Delta System

The Merced River is a tributary to the San Joaquin River, and is a major freshwater contributor to the Delta. The Merced River Alliance Project provides a vehicle for stakeholder groups in the upper and lower reaches of the Merced River watershed to work together to manage their shared resource and produce mutual management benefits. Establishing this innovative watershed partnership leverages stakeholder stewardship and management efforts to more effectively plan, implement, and manage on behalf of the entire Merced River watershed community. Restoration plans resulting from this project will provide added value to affected landowners and to wildlife habitat in the area. In addition, this project develops important data of transferable value to neighboring watersheds. The river-wide management action recommendations will provide a significant opportunity to improve the effectiveness of collaborative, community-based watershed management in general, with resulting public and local government returns. The data gathered through the baseline assessment will be valuable for several state and federal programs.

Project Overview

The Merced River drains the Merced River watershed and originates in Yosemite National Park. It flows southwest through the Sierra Nevada before joining the San Joaquin River in the Central Valley, ultimately reaching the Bay-Delta. The New Exchequer Dam bisects the Merced River into upper and lower reaches. Watershed functions and values in both reaches have changed because of several factors, including water storage and diversion, land use conversion, exotic plant and animal species, mining, non-point source pollution, riverbank alterations, discharge from sewage treatment plants, and recreational uses. Multiple restoration and management actions are planned and underway in both reaches of the Merced River. However, political jurisdiction lines, differing terrain and land use, and the dam have hindered local ability to recognize the entire basin as a single unit.

The Merced River Alliance Project joins the two independent watershed management efforts for the upper and lower reaches of the Merced River by creating an umbrella under which the East Merced Resource Conservation District and Merced River stakeholders (representing the lower reach of the watershed) and the Mariposa County Resource Conservation District and the Upper Merced River Watershed Council (representing the upper reach) can address watershed-wide issues collaboratively, while allowing the two groups to continue work in their own reaches.

This project addresses several key issues identified for the Merced River watershed: a) limited coordination between agencies and watershed groups working in the lower and upper reaches of the watershed; b) a lack of baseline biological data in both reaches upon which to base management decisions, project selection, and project prioritization, and c) a lack of watershed issue awareness in local communities, schools, and government, along with significant stakeholder resistance to water quality monitoring in the lower reach.

This project is the first phase of a unified comprehensive local effort to enhance the Merced River watershed, teach residents and others about the watershed, and attract involved support for future projects. The main thrust of the project is to develop a baseline inventory of watershed conditions that will allow all stakeholders—including agencies—to work from a single source of scientific data. The result will be more connected and interrelated decisions and actions that will enhance the entire watershed. This community pool of information will form the basis for gauging performance and for adjusting management for the benefit of the entire system.

Bioassessment training for local residents in the lower reach of the Merced River.

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Millerton Lake area of the Upper San Joaquin River surrounded by the distinctive Table Mountains.

Award Amount
$200,000

Watershed
Millerton Area Watershed

County
Fresno and Madera Counties

CALFED Region
San Joaquin Valley Region

Legislative Districts
US Congress: 19 and 21, State Assembly: 25 and 29, State Senate: 14

Purpose

Conduct an in-depth assessment and develop a watershed protection action plan of the Millerton Area watershed

Project Goals

- Coordinate and train volunteers to monitor water quality and to conduct field surveys
- Conduct a watershed assessment to be used as a basis for developing a watershed protection plan
- Develop a watershed protection action plan that identifies stressors and other barriers to watershed health
- Outline an action plan and timetable for project implementation to improve water quality and quantity and to protect terrestrial and aquatic habitat
- Build the capacity of the Millerton Area Watershed Coalition

Benefits to the Bay-Delta System

The Millerton Area watershed is an significant source of water for the San Joaquin River. The Millerton Area Watershed Coalition's development of a watershed action plan is an important step toward building the capacity of local communities to assess and manage their watersheds. The project includes numerous activities such as funding locally led watershed monitoring, assisting local watershed groups in addressing common issues, and ensuring effective communication and implementation among local, state, and federal government agencies and stakeholder groups. Effective planning will lead to watershed stewardship, maintenance, and restoration. Area residents will benefit directly from improved water quality, water supply, and ecosystem and habitat values, as will users of water from the San Joaquin River, including citizens, stakeholders, and tribal organizations.

Project Overview

The Millerton Area watershed consists of approximately 148,000 acres on both sides of the San Joaquin River between Friant Dam and Kerckhoff Dam in Fresno and Madera Counties. In 2001, the Sierra Foothill Conservancy facilitated the creation of the Millerton Area Watershed Coalition (MAWC), a community-based watershed stakeholder group. All landowners in the watershed have been invited to participate in a multi-phased process to develop a watershed protection action plan. Phase I and Phase II have been completed or are in progress. The Millerton Area Watershed Action Plan represents Phase III of the process.

The overall purpose of this project is to conduct an in-depth baseline study of creeks that make up the watershed and use collected data and existing literature and research to develop a watershed assessment that will be the basis for developing a comprehensive watershed protection action plan.

The purpose of the plan is to clearly identify specific problems and threats to watershed health and to recommend actions for protection, restoration, and ongoing management of the watershed. It will include detailed information about watershed conditions, urgent needs, and major areas of concern and will recommend restoration projects and other measures needed to protect the watershed. High priority implementation projects will be identified collaboratively by stakeholders.

The Millerton Lake area provides many recreation opportunities.

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San Joaquin River near Ball Ranch.

Award Amount
$300,000

Watershed
San Joaquin River Watershed

County
Calaveras, Contra Costa, Fresno, Madera, Mariposa, Merced, San Joaquin, Stanislaus, and Tuolumne Counties

CALFED Region
San Joaquin Valley Region

Legislative Districts
US Congress: 10, 11, 18, 19, 20, and 21; State Assembly: 15, 17, 25, 26, 29, and 31; State Senate: 5, 12, 14, and 16

Purpose

Increase public awareness of the health of the San Joaquin River, and increase involvement in local restoration efforts

Project Goals

- Assess current awareness of San Joaquin River restoration planning efforts
- Increase the number of students and community members familiar with the conditions of and restoration plans for the nearest reach of the San Joaquin River or tributary in their area

Benefits to the Bay-Delta System

The public opinion research conducted in This River Is Our River, Phase 2 will provide new information about what residents know about the San Joaquin River Basin and the various restoration planning efforts underway. The research also will determine how the public prefers to receive information about San Joaquin River issues. This information will be of value to local governments and organizations, the CALFED Bay-Delta Program, and other state and federal agencies. Much of the information will be transferable to the Sacramento River Basin and will be helpful in conducting education programs about the Delta and its tributaries. Implementing effective outreach and education projects will benefit the health of the local and regional ecosystems by engaging the community in important work already in progress.